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Abstract no.: MP. 1-1

Obesity-associated inflammatory factor IL-6 on the vitality of prostate cancer cells via SRD5A1

Xiaobo Wu, Anthony Chi-Fai Ng, Peter Ka-Fung Chiu
SH Ho Urology Center, Prince of Wales Hospital, The Chinese University of Hong Kong

Introduction

- Obesity-associated inflammation plays an important role in tumorigenesis.
- Previous studies revealed that obesity is significantly associated with a higher incidence of prostate cancer.
- To investigate inflammatory factors induced by obesity-associated inflammatory media and to test the role of SRD5A1, a reductase of androgen metabolism regulated by inflammatory factor IL-6, on the biological behaviour of prostate cancer cells.

Methods

A conditioned medium (CM) was prepared using short-chain fatty acids produced by mature adipocytes to induce the release of inflammatory factors from THP-1 macrophages, and testosterone (T) was used to mimic androgenic effect. the proliferation, migration, invasion ability, apoptosis and cell cycle of LNCaP cells were assessed. The combined use of SRD5A1 inhibitor dutasteride rescued the above effects of IL-6 on LNCaP.

Results

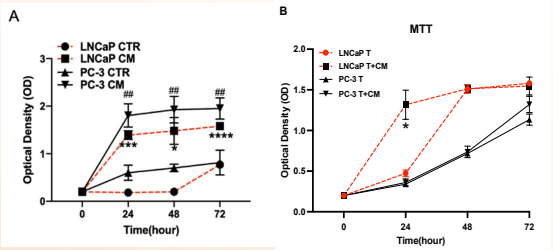

Fig. 1: Proliferation assay of prostate cancer cells administered by (A) Conditioned Medium(CM), and (B) testosterone (T)

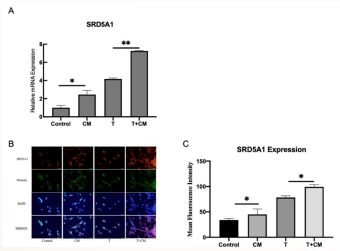

Fig.2 SRD5A1 expression in prostate cancer cells by (A) q-PCR (B) Immunofluorescence

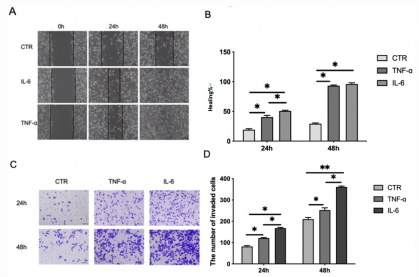

Fig.3 (A) Wound-healing essay and (B) Transwell assay in prostate cancer cells administered by cytokines

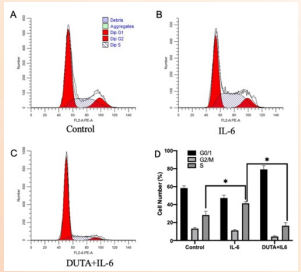

Fig.4 Apoptosis detection using flow cytometry (A) control (B) IL-6 and (C) IL-6+Dutasteride

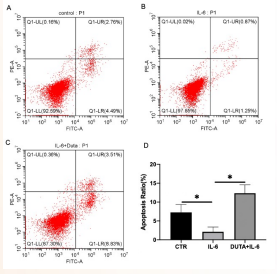

Fig.5 Cell cycle detection using flow cytometry (A) control (B) IL-6 and (C) IL-6+Dutasteride

Conclusion

The conditioned medium (with a major cytokine Il-6) enhanced Cell vitalityand regulated apoptosis and cell cycle. Dutasteride, an SRD5A1 inhibitor, reversed the effects the above mentioned effects of IL-6 on prostate cancer cells.

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